AMERICAN RAILROAD JOURNAL,

AND

ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 30 WALL STREET, AT FIVE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, and GEORGE C. SCHAEFFER, } Editors and Proprietors.] SATURDAY, OCTOBER 21, 1837. (Published February 10, 1838.) VOLUME VI.—No. 42.

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AMERICAN RAILROAD JOURNAL.

NEW-YORK, FEBRUARY 10, 1838.

We are indebted to the kindness of Messrs. Curtis and Scoles, for Congressional and Legislative documents.

Also, to J. E. Bloomfield, Esq., for the Report of the Canal Commissioners.

In placing the communication of "Veritas" before our readers, we feel that we cannot too strongly insist upon the correction of an error of so great magnitude as that animadverted upon by our correspondent. In so far as facts are concerned, the erroneous statements in this case happen to be diametrically opposite to the truth. Moreover, we have heard experienced engineers state, that the exceedingly rapid transit of passage cars actually injured the road more than the trains of burden cars moving at a more moderate rate.

To bolster up a foolish proposition by distorted, or rather entirely false statements, is no way to aid the cause of Internal Improvements.

For the Railroad Journal.

UTICA AND SCHENECTADY RAILROAD, &C.—AND THE UTICA OBSERVER.

In a recent number of the Utica Observer, (January 30th,) the Editor of that paper holds the following language:—"So far as the Railroad companies are concerned," (speaking of those on the line from Albany to Buffalo) "*we are informed* that they consider the carriage of freight as rather *detrimental* than *beneficial* to their interests. The experience of the Liverpool and Manchester Road in England confirms this opinion. It has *long* been employed for the transportation of merchandize as well as passengers—but heavy trains engaged in the former service are found to be so destructive to the road, that they have been discontinued."

It is fortunate for the cause of truth and Internal Improvements, that the Railroad Journal has been revived, and that one of the last numbers, (the 37th,) contains a full refutation of the statements above quoted from the Observer.

The evidence to which I refer, is the Report of the Liverpool and Manchester Railroad Co for the half year ending June 30, 1837, being the latest Report emanating from that company received in this country.

By that Report it appears that the gross receipts, or income, for the half year mentioned, is as follows:—

Transportation of Passengers,	£59,956	4	6
Do. *Merchandize* and *Coal*,	45.995	11	6
Total receipts,	£105,951	16	0

The Report states, that being "*intimately connected* with the *trade* and *commerce* of the country, the *traffic* by the Railway in the *merchandize department* has diminished with the diminished trade of this great commercial and manufacturing district." It speaks, also, of the "general depression in *trade*, which had occasioned a *serious diminution* in the *traffic* by the Railway," and of the misfortune, "that when the Company were prepared to meet an enlarged business, the aggregate *traffic* should have been curtailed."

This, certainly, does not look much like a discontinuance of the transportation of Merchandize upon that Road, as asserted by the Editor of the Observer; neither is there evinced any intention of relinquishing a branch of their business from which, as appears by the receipts above given, they derive nearly *one-half of their income*. On the contrary, the Company deprecate as a calamity, the loss of a portion of that business resulting from the pressure of the times, which the Editor of the Observer, says, they were not only anxious to relinquish, but had *absolutely discountenanced*.

From my knowledge of the character of the Editor of the Utica Observer, I feel confident he would never knowingly attempt, either directly, or indirectly, to deceive the public on a question affecting so vitally their interests. He has, undoubtedly, been misinformed by ignorant or designing persons, who are aiming, it is believed, to accomplish two objects.

The first is to induce the State of New-York to relieve the Railroad Companies along the line of the Erie Canal, from the restrictions at present imposed upon them in respect to the carriage of freight. The second, and probably the leading object, is to produce an impression unfavorable to the adaptation of Railroads as a medium for the conveyance of freight, and thereby prejudice the success of the application now pending before the New-York Legislature, in behalf of the New-York and Erie Railroad.

As to the propriety of the State imposing restrictions upon private enterprize, as is now done on a large portion of the line of Railway from Albany to Buffalo, in prohibiting either entirely, or conditionally, the carriage of freight, I presume no difference of opinion will be found to exist among reflecting and liberal-minded men. It is, however, too much the practice in these days of speculation and "humbuggery," to endeavor to accomplish by finesse, and misrepresentation, what should be done openly and above board. Had the "informants" of the Observer come out frankly, and acknowledged that the transportation of merchandize was a desirable object with the Companies located along the line of the Canal, and that they were anxious to have the present restrictions removed, we should with pleasure, *when the proper time arrived for action*, have seconded this request. But when they aim to accomplish their object by indirect and improper means, which from their character are calculated, and probably intended, to prejudice other and more important interests, we must be excused for speaking out plainly, and placing the whole matter in its true light before the public. VERITAS.

REPORT OF THE SUPERINTENDENT OF THE LANCASTER & HARRISBURG RAILROAD.

To Samuel Wonderly, Esq. President of the Lancaster and Harrisburg Railroad Company.

SIR,—In presenting to you a detailed account of the operations and condition of the road, which in some measure, has for the last year been entrusted to my care and management, I feel no ordinary degree of pride and pleasure in being able to present to you a statement of its condition, because when we reflect upon the various disadvantages and difficulties with which we have been surrounded almost from the onset, it is truly a flattering one, not only to those who have had the general direction of its affairs, but also to those whose money has been so liberally advanced for its construction.

To say nothing of the opposition, *from a powerful source*, which the Board was compelled to contend with, from the very commencement of their operations, and which was only overcome by a *determination* and industry that few men would have been capable of exercising, it is enough to draw the attention of yourself and those associated with you in the management of the Company, to the fact, that ever since the first division of the road went into operation, there has been an almost regularly organized, and I might say, *pensioned* set of people, acting in perfect unison to *misrepresent*, and by every species of management injure the business and reputation of the road. This course of treatment towards any particular portion of the improvements of the country by any set of individuals, I am aware, may to you, and still more so to others havnig a deep interest in the road, appear rather singular and almost impossible. But when they reflect that the entire business of the improvements of the state, had for years been regularly flowing through their different channels to centre at one particular point, they will not think it strange to see the people whose hopes and prospects were likely to be destroyed by another improvement, rise *en masse* to cross its progress. Such was the state of things at the commencement of this road. The town of Columbia is peopled with an active, industrious, intelligent and enterprising people. They saw at the commencement of the system of internal improvements what they believed the *interest of their town;* and unlike people of other towns and villages, possessing a greater extent of boundary and advantages, acted in concert and effected their object,—the location of the canal and railroad so as to make *their town* the point at which every thing must centre, was the result.

The commencement of the Harrisburg and Lancaster Railroad, was a blow aimed at the towering prospects which they had naturally built upon, and which they were realizing from the fruits of their former good management. To prevent its construction was the only hope of a set of men who knew too well its effect upon themselves, if once it went into successful operation. This, then, was the grand cause of the many difficulties which were thrown in the way of the first operations of the Board, and which have still continued to extend themselves from one branch of operation to another. And it is the same feeling and interest which, being unable to effect any thing else, is endeavoring to operate upon the Legislature to authorize the making of another, or *opposition* road. All this, however, will avail them nothing. The Harrisburg and Lancaster Railroad has been made in despite of all opposition, and is now I am proud to say, in the full tide of successful and *profitable business*. And before taking leave of this subject, permit me to say, that the location of the state improvements is one of the strongest evidences to prove the important fact, that nothing short of a straight-forward, disinterested discharge of duty by any man or set of men, entrusted with the direction of any public improvement, will sustain them to the end. Had the public agents kept an eye solely to the interests of the commonwealth, or the public, there never would have been a canal from Middletown to Columbia, and a railroad from Lancaster to Columbia. No, the canal would have ended at its junction with the Union canal, and the railroad, instead of being pronounced *impracticable*, would have been made upon precisely the ground upon which it was located by the talented young gentleman, Mr. Roberts, who stands at the head of your engineer corps. It is true that the construction of this road has been an expensive business to those whose means have been compelled to bear the burthen, but the past sufficiently proves that the most sanguine anticipations of its friends will be more than realized.

The first nine miles of the road went into operation about the 16th of September, 1836. Business was partially commenced upon the fifteen miles next Lancaster about the 1st January, 1837. Soon after this second division went into operation, I commenced my duties upon the road. Of the situation of things at that time it is scarcely necessary for me to say a word. To you they are familiar. I found two strips of disconnected road, that had most of it been hurried down at a season of the year when it was impossible to make good work. We had no facilities at either end of the road We had no workshops; no tools to make the most trifling repairs, either to the road or to the engines. We had no water stations; no turnrounds at either end; no sidings, or turnouts, at any one point on the road. In short, we had nothing but two unconnected portions of road, with but one engine fit to run, the "*Middletown*," upon the upper end of the road. One other engine was in use at Lancaster, the "*Dutchman*" but in such condition as to be unfit for duty had there been any other. In this situation it was not to be expected that much could, or would be done. But what was the result? Notwithstanding we had no facilities, and in despite of every difficulty, we succeeded in carrying on the regular business of the road.

So well, too, were the community satisfied with the accommodations afforded them, that the business continued to increase almost daily, from the very day of our operations. To establish this fact, it is only necessary to refer you to the extraordinary exertions made at the opening of the Canal, to induce those gentlemen doing business upon the road, to leave it for the state canal and railroad. To effect this, every inducement was held out by all whose interests lead them another direction. But finding that Messrs. Colder and Poters understood their *ultimate* interests too well, to be dazzled by a temporary saving of a few dollars, a powerful and determined opposition was got up, called the "*Express Line*," headed by Mr. Leech, a gentleman of industry and great experience in business, and as a "*blow* kept *in reserve*," the state agent presented to the public a large argumentative advertisement, in favor of Mr. Leech's line, which ran upon the state improvements. But all would not do. The "EXPRESS LINE" was soon compelled to fly to the *two little bits* of unconnected road, which with all its disadvantages, was capable of satisfying the public that it was the direction which nature had intended as the line of communication between the metropolis and seat of government of the commonwealth. Situated as we then were, with an enormous travelling business, and little means of accommodating it, the only wonder is that we were able to succeed at all. But, although the situation of every one connected with the road, and particularly my own, was such as I should never wish to undergo again, I felt myself fully compensated when I reflect that great as the difficulties were, they have all been overcome. And powerful too, as was the oppositfon, it has been compelled to yield to the force of public opinion, and to seek other means of effecting its object. But how different is our situation now? We have struggled on until we have the whole line of our road in operation. The tunnel, it is true, is not finished. But it is in a state of forwardness which warrants the belief, that we shall in a very short time, be able to pass through it, and thus afford our stockholders an opportunity of realizing the proud gratification of having effected that which the *Commonwealth* with her *millions* had *pronounced impracticable*.—Here permit me to say, that the operations at the tunnel are highly creditable to every one connected with it. Every facility is afforded the contractor by the different members of the engineer corps; all being anxious to do every thing in their power to finish that in which they feel the Company have so deep an interest. The

contractor is pushing his operations with no ordinary degree of skill and determined industry. There are now about 130 men at work on it, and a portion of them at work *all night*. But the increasing demands of persons wishing to commence business on the road, made it necessary to make a still greater effort to accommodate, and a temporary track is now about being finished *over the hill*. By this we are enabled to do a very large transportation business, which I feel confident will be found a source of considerable profit to the company, and which could, otherwise not have been had, to say nothing of the effect it is calculated to have upon the public mind.

During the past summer and fall, much time has been devoted in making such conveniences as were indispensable to the business of the road. Among these, were the water houses and wells at the different stations, turn-rounds to turn the engines, one at Harrisburg, one at Elizabethtown, one on the east side of the tunnel, and one at Dillerville. We have also been compelled at each of the other points, to have turnouts or sidings, all of which have required much time, attention and considerable expense. We have also been compelled to construct separate sidings, in which the three different weigh scales have been placed.—The scales have been put down, and the one at Dillerville, is now ready for use. We have had in use for the last three months a very convenient little smith shop at the eastern end of the road, at which the repairs of the engines at that end of the road have been done at an expense much below that which they would have have cost, had they been taken to a strange shop. Since then, the permanent machine shop has been built at the same place, where all repairs of the machines can be done to a much greater advantage than they have been heretofore done. The depot house too, is about being finished In speaking of these buildings, it is but just to say, that I believe they will compete with any other in the country, and from their neatness and convenience in answering the different purposes for which they are severally intended, reflect much credit upon him who designed them.

In conducting the business of the road, it will be recollected, it became necessary for the superintendent of the road to direct many things, and attend to the construction of many more, which under other circumstances would not have been part of his duty. But as above stated, we commenced business without any preparations, and having turned the travelling public upon the road, it would not do to suffer them to leave with a promise that we would be prepared to accommodate them at some future period. In this state of things, there was no alternative for the superintendent, but to exert himself to authorize and attend to the construction of such facilities as the business and the interest of the road required. This, in every instance, was done as speedily as possible. Thus it was that we were able to continue our operations. And it is but right to say, that any other course than the one adopted, and pursued under the direction of the president, would have been found insufficient to meet the many difficulties which were daily presenting themselves. This course of management, which became indispensable from the situation of the road, and the want of funds by the company, from which the engineer could draw, has been the cause of a large amount of money being expended, which otherwise would now be in the treasury. This will be seen by a reference to the regular statement of the expenditures, as properly arranged under their proper heads.

But as we have travelled through the worst of our difficulties with which we were for a time surrounded, permit me now to draw the attention of the Board to a more pleasing picture. The whole road is now in use. It is not like some other improvements which have been made at a very heavy expense, only ready for use, but it is actually being used by the great body of the travelling community. It is now not only the means of accommodating the traveller, but the man of business finds it his interest to prosecute his business upon it. Many gentlemen engaged in the transportation of merchandise, have commenced using their cars upon the road, and many more are making arrangements to commence in a few days. From what has already been done, I feel confident in the belief, that before the first of May next, we shall have our road lined with business of every description, yielding profit to the stockholders far above their greatest anticipations.

The expenditures or payments, by my order, for all expenses since the commencement of business upon the road, being over 16 months, will be found as follows: For motive power, including repairs of engine, $11,573 39. For repairs of the road, $2,457 98. For permanent constructions, $6,219 00.

Thus it will be seen that a considerable amount of money has been expended for motive power, when compared with the amount expended for the repairs of the road. But to explain this, it is only necessary to remind the Board that owing to the unfinished state of the road, very nearly double the expense has been incurred which would have been necessary for the same amount of business on a finished or continuous road. Being compelled to stop at different points on the road, and return with the engine, made it necessary to keep up a double set of engines, engineers and firemen, and in the article of fuel the expense has been more than double, because during the whole time the engine is standing, waiting, turning, or changing, nearly the same consumption of fuel is going on as though the machine was performing her regular labor. Owing too, to this consumption of fuel, a double set of workmen became necessary to saw wood and pump water. But let us see how it will compare with the expense of the same department upon the state road. Upon the Columbia and Philadelphia road has been run during the most of the last year, eight locomotives per day. The amount of cost of motive power as taken from the superintendent's report is $115,000, or thereabouts. The two-eighths of this amount would be 128,748, and our expenses were as above stated only $11,673 39 !! Thus we see that on that road with every facility that skill, experience and money could devise and construct, the expense has been within a fraction of treble what it cost on our road, with all our disadvantages.

But I am pleased in being able to present to you so small a sum of money expended for the repairs of the road. This I think will argue but little in favor of the doctrine that is advanced by a few, that the State ought to have the management of all the improvements. The Columbia and Philadelphia road is about eighty miles long, and by a reference to the late report of the canal commissioners it will be found that $51, 553 22 has been expended during the whole time it has been in use, is but $3,457 98. In addition to this money, repairs became necessary during the last summer, that otherwise would not have been, had it not been that a large portion of the road was hurried down during the previous winter, and which had to be taken up so soon as the frost had left the ground. Next year it is confidently believed that the actual repairs of the road will be much less than they have been the year just ended. And again let it be remembered, that the state road is said to be a permanent road; to avoid much repairs, was made of iron and stone, at a cost of about $60,000 per mile, while our road is called a perishable road, and has been made at a cost of about $19,000 per mile. So it will be seen from the above fact, that the difference in expense of the repairs will in a few years leave in the treasury a sum sufficient to replace the whole superstructure of the road.

JAMES CAMERON, Superintendent.
January 6, 1838.

REPORT OF THE JEFFERSONVILLE AND NEW ALBANY CANAL COMPANY.

To the President and Directors of the Jeffersonville and New Albany Canal Co.

Gentlemen—It having pleased you to entrust the undersigned with the duty of ascertaining by actual surveys and estimates, the practicability and probable cost of constructing a navigable canal around the falls of the Ohio on the Indiana side of the river, adapted to the use of steamboats, he has the honor to inform you that he has fulfilled the task thus confided to him, and now presents for your consideration the following report:

On entering upon the examination of the ground to be occupied by the proposed work, two routes presented themselves to the consideration of the undersigned. By the first it was proposed to commence at a point on the Ohio river immediately above Jeffersonville, and near the boat yard; from this point a straight line was to be run to the valley of Mill run—thence curving into the valley of that creek, it was proposed to occupy it to its mouth in the "Basin" below the falls opposite Clarksville. It required but a partial examination of this route to discover, that it neither offered the inducements of diminished distance, usefulness when completed, or superior economy in its first cost of construction.

This route was obnoxious to the objections of greater length, greater depth, and quantity of excavation of earth and rock, and greater inconvenience was likely to be experienced after its completion from the water of the two creeks, which it was thus rendered necessary to cross, if this route was occupied by the canal:—yielding therefore to the force of these considerations, another route was sought for, found, and is recommended to you as the most favourable of the two examined to the achievement of economy in the construction of the proposed work, and usefulness when it shall have been completed.

This route has its point of beginning on the Ohio river above Jeffersonville, near the boat yard, and pursues a straight course for about one mile—thence it curves into the valley of Cane run, and occupies the valley of that run to its mouth, thence it crosses the "Big Eddy," in the river by an embankment, which will form a large, convenient basin—thence following the margin of the river, the canal descends to the river by two locks, the lower one of which is placed in the river, nearly opposite the mouth of Mill run—and in such a position that boats can enter it at the lowest stage of the water. The length of the canal on the proposed route is two miles and 3,200 feet, and the fall is twenty-five feet between the upper and lower mitre sills. After the determination of the proper route for the canal, the subject which next engaged the attention of the undersigned, was the determination of the dimensions appropriate for the proposed work. It would seem at the first view that the maximum usefulness of the canal would be obtained when its width when finished, was such that two boats of the largest class could pass each other unobstructed. But it is manifest on reflection that to dimensions so extended in breadth, as would be requisite to pass two boats abreast, there would be countervailing objections in the enhanced first cost of the work, and the increased difficulty and expense necessary after its completion to keep it free from the obstructions incident to sedimentary deposite. Nature in forming and regulating the rivers, which drain the great western valley, has assigned to each a velocity sufficient to carry off to the ocean the sediment with which the waters are abundantly charged during the periodical inundations to which they are liable.

The Ohio, although it has not mingled with its waters as much solid matter as either the Mississippi or Missouri—yet experience has abundantly shown that during the spring and autumnal freshets, it contains a sufficient quantity of this sediment to obstruct the free use of a canal, unless means is applied either to prevent its subsidence, or to effect its removal after its deposition—(which happens at every considerable rise of the river.) As the perfection of human skill consists in wielding nature's laws and natural agents for the achievement and preservation in perfect repair of the works of art, it has occurred to the undersigned that the same means must be used for keeping your canal free from sedimentary obstructions, that nature has applied so successfully to the river, for the long lapse of ages that has intervened since its creation, and which yet continues, and probably ever will continue to enable it to move on in its course of unobstructed and unceasing usefulness. It is evident therefore that you must create in the canal during periods of high water a current equal to the average velocity in the river; or at least such a current as will be sufficient to keep light alluvial matter in suspension and progressive motion.

This desirable effect will be produced with more ease on a narrow than on a broad canal, for inasmnch as this current must be created by the water of the canal being made to flow through gateways placed at the lower end of the canal; of course, the more contracted the cross section of the canal, the less will the amount of gateway necessary to create a given velocity. Combining all the considerations of economy of construction, with facility of cleansing the canal when in use, the undersigned has established the breadth of the canal at eighty feet—the sides to be walled up vertically to the height of thirty feet when the excavation exceeds that depth. These vertical sides have been found by experience to be much better adapted to the free passage of steamboats through the canal than when they are made sloping. This width will enable two boats of the small and middle class, to move abreast in the canal. For the accommodation of boats of the large class, it is proposed to provide at suitable intervals, two basins, or passing places, in addition to the spacious one which will be made at the "Big Eddy."

The canal now in use on the Kentucky side of the river, is not equally deep throughout its entire length: the undersigned was informed, that it is not so deep up at the entrance of the canal as it is at the head of the upper lock, by more than one foot, and hence the frequent grounding of boats observed at that point:—to remedy this in your canal, it is proposed to sink its entire bottom level, one foot below the mitre sill at the head of the upper lock before mentioned; this will give you, at the lowest stage of the river, five feet depth of water in your canal.

It might seem at first view that this will furnish a greater depth of water than is necessary—for it may be said, that at the same time you are providing for five feet depth in the canal, there will be only two and a half feet on the Flint Island and French Island bars.

This would be true were it not rendered otherwise by the difference in height above and below the falls, to which the river rises during freshets—thus: when the river is at its lowest stage the fall is twenty-four feet from the surface of the water above to the surface of the water below the falls, and then there is four feet depth of water on the upper mitre sill of the upper lock in the Louisville and Portland Canal.

When the water rises two feet at the head of the falls (and of course in the canal) the fall is reduced to eighteen feet, there is about eight and one-half feet depth of water below on the French Island Bar, when there is only about six feet depth in the canal. It is therefore in the medium stage of water in the river, that greater depth is found to be requisite in the canal.

The dimensions assumed for the locks are as follows—width in the clear, fifty-eight feet, and length from the upper to the lower hollow quoin 240 feet. Such a lock will pass a boat 225 feet long and 57 feet wide. It is not probable that a boat exceeding these dimensions will ever pass the falls, except when the water is at its greatest height, and then she can pass over the falls in the bed of the river. It is farther proposed by the undersigned to overcome the whole fall by two locks instead of three, as now used on the Louisville and Portland Canal—also it has been arranged to separate the two locks by an intervening basin. In this manner a greater number of boats can be passed in the same time and with a less expenditure of water. The cost of the lower lock is very greatly enhanced by the necessity which exists, of locating it out some distance in the river, where coffer dams, and much pumping of water will be required, together with embankment and walling. This is occasioned by the extreme shallowness of the water at its low stage, by reason of which it is necessary to place the outlet of the lock some 300 feet into the river to obtain the requisite depth for the purposes of navigation. In order to maintain a current in the canal at high water so as to keep the sediment in motion, and prevent its subsidence in the canal, it is proposed to erect a wier, with a number of gates in the bottom of it, and to be of such a height that the water will run freely over it, when the river is in the condition that boats can pass over the falls.

Having thus detailed the general plan

of the canal and its incidental construction—it remains to submit the estimated expense attendant on the execution of the work in the manner proposed—to wit:

For 1,322,100	Cubic yards of excavation of common earth, gravel, &c., at 30 cents per yard,	$396,630 00
382,384	Cubic yards of excavation of solid rock at $1,50 per cubic yard,	573,576 00
219,924	Cubic yards of embankment from the canal at 10 cents per yard,	21,992 40
228,508	Cubic yards of embankment not from the canal at 20 cents per yard,	45,701 60
158,512	Perches of walling at 50 cents per perch,	79,236 00
	For two bridges,	13,000 00
	For a waste wier and gates,	11,580 00
	For two locks with the necessary coffer dams. excavations of pits, gates, &c.,	320,908 00
	Totol cost	$1,462,644

The cost of the Louisville and Portland Canal up to the present time is $953,300, and on this amount the directors have declared a dividend for the past year of thirteen per cent—which if divided on the capital stock necessary to construct your canal would have been a dividend of 8 47-100 per cent.

It is clearly manifest that if a canal of large dimensions and greater depth were now constructed on the Indiana shore, the business would forsake the present canal, and seek the facilities offered by this enlarged and improved avenue of trade.

To counteract this operation, injurious to its interest, the Louisville and Portland Canal company would most probably seek to restore its business, by a reduction of the tariff of tolls at present imposed.

But aside from considerations of this sort predicated on the present trade of the Ohio river, it requires but slight forecast to predict with the certainty of its fulfilment, that the period is not far distant when the trade of the Ohio valley will furnish to both canals as much business as they will be competent to perform.

To verify the truth of this assertion, it is only necessary to examine the magnitude of the country dependant on the Ohio river as the avenue on which its commerce is to be conducted. A very large portion of the inhabitants of twelve states in the union are immediately interested in the navigation of this river. The country inhabited by these people was but a few years ago the home of the savage; and even now, the greater portion of it is a wooded wilderness or an uninhabited prairie.

But when the swelling tide of population shall have peopled this fair and fertile land, with an industrious and hardy race, then the requisitions on the Ohio river as a channel of commerce will be coextensive with a nation's growth, and will be limited only by a nation's wants.

In speculating on the probabilities of the future, the facts furnished by the experience of the past may be profitably consulted—and accordingly the undersigned has collated the following tabular statement from the 13th annual report of the president and directors of the Louisville and Portland Canal Company to the stockholders. This statement shows the increase of trade on the canal from the year 1831 to 1837 as follows:

	Steamboats.	Flat and Keel boats.	Tons.
1831	406	421	76323
'32	453	179	70109
'33	875	710	169885
'34	938	623	162000
'35	1256	355	200413
'36	1182	260	182220
1837	1501	165	242374
Totals,	6611	2713	1,103,324

Taking the period from 1833 to 1837 as indicating the future rate of increase of the trade, it will be thirty-five per cent. per annum; and at this rate of increase the number of tons which will pass the Louisville and Portland Canal in the year 1847 will amount to 848,309, and if the price of tolls is kept at the same rate now charged, the company could then divide forty-five per cent. per annum on the capital stock. This calculation, which is by no means extravagant, will exhibit clearly to the directors that the stock of the Jeffersonville and New Albany Canal will yield more than six per cent per annum; because, as the dividend on the stock of the Louisville and Portland Canal is limited by the charter to eighteen per cent., it has been shown that in 1847 there will be tonnage enough to pay this dividend and leave twelve per cent. for your canal. But yours being the larger work, offering greater facilities to the passage of boats, would probably command the major part of the trade.

The application of the water power which will be created by the construction of the proposed work, may also be made a source of revenue to the company. The Louisville and Portland Canal Company has caused to be kept a daily register of the comparative rise of the water at the head and foot of the falls—with a copy of which I have been politely furnished by the secretary of the board.

It contains the following statement:

"When there is four feet of water in "the canal, the fall is twenty four feet, "and at the highest water ever known "giving forty feet in the canal, the fall "was one foot and four inches."

The following table shows the falls for all stages of the river:

Depth in the Canal. Feet.	*Fall in the River.* Feet.	In.
4	24	
5	21	
6	18	
7	16	6
8	15	
9	14	
10	13	6
11	13	
12	12	
13	11	
14	10	
15	9	4
16	8	6
17	7	10
18	7	4
19	6	10
20	6	4
21	6	
22	5	8
23	5	4
24	4	10
25	4	6
26	4	4
27	4	
28	3	10
29	3	8
30	3	6
31	3	4

"And up to forty feet in the canal "gives 12-10 inches less fall in each foot.

"It is further remarked, that the rises "of the water in the river are not uniform, "but vary almost every season, and it "does not attain its maximum height "oftener than once in ten years.

"The annual rise that reduces the fall "to six feet may be calculated upon—it "sometimes rises above that, but the "high water so as to reduce the fall be-"low six feet, will not average ten days "in the average of each year, for the last "twelve years. A safe calculation may "be made on eighteen feet fall for eight "months in each year, twelve feet for two "months, and from eight to six feet, for "the remaining two months."

This is a statement derived from observation through a long series of years—it is entitled to respect, and abundantly proves that there will be a large hydraulic power created by the construction of your canal; and as the retarding influences which have probably operated to prevent the use of this power on the Kentucky shore, will not exist on the northern side of the river—It is fair to infer that its use will be commensurate with the wants of an already dense and constantly increasing population, and that the receipts from this source will swell the annual profits of the enterprise in which you propose to engage.

In conclusion, the undersigned will take occasion to remark, that in submitting the estimates for the probable cost of the canal, he has endeavored to present

an undisguised statement of its real cost on the plan proposed. It has been a settled rule in his professional career, never to suffer himself to be made accessary to the propagation of error, or to the purposes of deception—even though it were for the attainment of a desirable object.

The estimates which have been frequently submitted for proposed works—in some instances being less than a moiety of the actual cost—have operated injuriously on the cause of internal improvement, and is a reproach to the profession from which they emanated.

With the expression of his best wishes for the success of your enterprise, the undersigned has the honor to subscribe himself,

Very respectfully, your ob't,

THO'S. F. PURCELL,
Civil Engineer.

Louisville, Jan. 8, 1838.

RAILROADS AND STEAMBOATS.

From Blackwood's "World we Live in."

It might be a curious speculation to inquire into the probable effects of the railroad system on mankind. Certainly no system ever became so popular, and so suddenly and so widely popular.—France has begun to fling out those gigantic arms of communication over her noble country. Belgium exults in the commencement of a web of railroads, in which it expects to catch all the stray dollars and centimes of the Continent. The transit from Ostend to the Rhine will, in the course of a year or two, be an affair of a couple of hours. Germany is shaking off her sleep, her blacksmiths are lightning their Hercynian forges, and from the mountains of the Hartz to the Tyrol, huge men, with antediluvian visages and Cyclopean arms, are hammering at iron wedges, rail, and gear for "fire horses." Prussia is laying down railroads from her capital to France, to Poland, and to Austria. The puzzling question of her politicians being, whether she thus invites invasion, or proposes defence. But politicians are blockheads on all matters of common-sense; and of all blockheads, the German politician is the most profound, headstrong and hopeless. The merchant, the traveller, and the tinker know better things. They could tell them, that the roughest of royal rough-riders, was never able to whip and spur either Frenchman, Belgian, Prussian, or Austrian into belligerency, more than fifty years out of every hundred. But, thanks to the growing common-sene of mankind, they never will be able to do even this again, and that the world is beginning to discover that fifty years of victory are not worth one year of peace. In short, the world is evidently become a buying and selling world, a vast spinning and weaving community, a vast aggregate of hands and heads, busy about the main chance, and much more inclined to eat, drink, and be happy, than to burn each other's warehouses, or blow out each other's brains. That war will never cease out of the world, is a theorem founded on the fact that the countless majority of mankind have a strong tendency to be fools; but we may establish another theorem, that the more difficult it is to make war, the less likely it is to be made. The more mechanical dexterity, personal ingenuity, and natural expense that is required to make war, the more will success be out of the power of brute force, and the more in the power of intellectual superiority.

Let war come to a conflict of steam engines, and all the barbarian rabble of the world, Turks and Tartars, Arabs and Indians, Africans and Chinese, must obviously be out of the question as once. They may massacre each other, but they must fly from the master of the mechanics. All the half barbarians, Russian, Greek, Pole, Swede, and Austrian, must make the attempt only to be shattered, and Field-Marshal Stephenson, with his squadron of fire-horses, galloping at a rate of eighty miles an hour, must consume their battalia with the breath of his nostrils. Thus England, instead of feeling alarmed at the sudden passion of foreigners for mechanism, should rejoice to see the passion spreading, should encourage them to throw all their powers into mechanical rivalry, and exult in every railroad that shoots its serpent line among the hills and valleys of the Continent, and hail the smoke of every steam-engine that trails its murky line along its sky, as not merely an emblem, but an instrument of their own superiority.—Mechanism, the great power of art, is as exhaustless as any of the great powers of Nature, for it is only the exhaustless vigor of intellect combining with and commanding the secrets of nature.

Ten thousand years might roll on, and every year see a new advance of every kingdom of Europe in invention, and England keeping ahead of them all, and, like one of her own engines, showing her speed by the sparks that lighten the road behind. The steam-engine in its effective state, is but little more than half a century old, for its invention, in the time of Charles II., left it for upwards of half a century little more than a toy. In half a century more, its present perfection may be looked upon as little else than that of an ingenious plaything. It is scarcely ten years since the steamboat first ventured to sea. Thirty years ago the late Lord Stanhope was laughed at by all London for his attempt to swim the steam-boat from London Bridge to Greenwich. It now dashes from the Tower to Constantinople; or shoots down the Read Sea, fights the monsoon on its own ground; sweeps to Bombay, Ceylon, and Bengal, and astonishes the Mogul and the Emperor of China, the same morning, with the month's newspapers from London. The railway in its present power, is not ten years old, yet is already spreading, not merely over Europe, but over the vast savannahs of the New World. What will all this come to in the next fifty years? What must be the effects of this gigantic strider over the ways of this world? What the mighty influence of that mighty communication which, even in its feeblest state, has been in every age, the grand instrument of civilization! Throw down the smallest barrier between two nations, and from that hour both become more civilized. Open the close shut coast of China or Japan to mankind, and from that hour the condition of the people will be in progress of improvement. The barbarian and the despot hate the stranger. Yet for the fullest civilization, freedom, and enjoyment of which earth is capable, the one thing needful is the fullest intercourse of nation with nation, and of man with man.

The European passion for the railroad is certainly one of the most singular as it is one of the most cheering characteristics of the age. Like all instruments of national power, it may be made an instrument of evil. It may give additional strength to the tyrannical, and accumulate force against the weak, pour resistless invasion against the unprepared, and smite the helpless with unexampled rapidity of ruin. But its faculties are made for peace, its tendency is to make nations feel the value of peace; and unless some other magnificent invention shall come to supersede its use, and obliterate the memory of its services, we cannot suffer ourselves to doubt that the whole system which is now in the course of adoption with such ardor throughout Europe, will yet be acknowledged as having given the mightiest propulsion to the general improvement of mankind.

POET WORKMEN.

It is singular enough, that Mr. Miller, the basket maker, and author of "A Day in the Woods," has a namesake now in London, who is likewise both a workman and a poet. Nicholas Miller, a printer of Stuttgard, is author of a volume of poems which have attracted considerable notice in his own country,—Wirtemberg. He is now following his trade in London, where, although we can pretend no rivalry to the gigantic operations of the Parisian press in appropriating the works of foreign countries, there is still employment for some few printers of French and German. The king of Wirtemburg, in his recent visit to Eugland, took notice of Miller, and presented him with what the Hamburgh correspondent calls a "truly royal" contribution to his support, and "further education." From the latter expression, it appears that Miller is following the old and approved fashion of the German, travelling to perfect himself in his trade. Those who are thus enabled, are, it is well known, often slenderly furnished with money, and looked upon as entitled, without any forfeiture of their respectability, even to begon the road.—*Ib.*

EGYPTIAN MODE OF MOVING COLOSSI.

In the King's library at Berlin is an interesting papyrus representing the Egyptian mode of moving Colossi. The Sphynx being upon a sledge, the first line of laborers are placed very close to it, and the rope is ramified, after passing under each man's arm, so that every rank in advance doubles the number in the former line, just in the way that foreign heralds exemplify quarters of descent. A drummer appears to be giving time for a simultaneous pull, a process facilitated by several attendants pouring oil where the tire of the sledge is about to pass. The latter circumstance would lead to the supposition that Egypt in prosperity was not deep in sand, as at present, or else that the ingenious inhabitants used a temporary railroad for conveying their prodigious monuments, the oil alluded to being poured upon the flange or groove that received it. The former may perhaps, solve the means by which the huge stones at Stonehenge and other ancient monuments in this country were placed in their situations.—*Lon. Mechanic's Mag.*

BELGIAN RAIDROADS.

The lines by which the Belgians propose to connect their western boundary looking on the sea, with their eastern, bordering on Germany, is already so far completed, as to be opened from Termonde to Ghent. The ceremony took place on the 29th September: five locomotives drew a hundred carriages; music, fireworks, illuminations, and a banquet to king Leopold augmented the pleasure of the day. When the line is completed to Ostend, and a fast-going packet placed on that station, the journey from London to Brussels may be effected in sixteen hours. Just double the time, or thirty-two hours will be required for the passage from London to Paris, by a new route proposed by a French steam packet company, which intends to convey its passengers from London to Havre by a steamer, from Havre to St. Germain by the Seine, by a small boat, and from St. Germain to Paris by the new railway.—*Ib.*

RELEASING STOPPERS FROM BOTTLES.

Sir,—As I have no doubt that others of your readers, as well as myself, have frequently been inconvenienced by the stoppers of glass bottles becoming fixed, perhaps the following method of extracting them may prove useful to them. It was communicated to me by Mr. H. H. Clark of Sheffield, with whom it originated, and has, I believe, never been made public. Having wiped the neck of the bottles perfectly dry, and seen that the little groove or channel between the stopper and the neck is quite clean, pour into the groove a few drops of *spirit of wine*, and having set it on fire, let it burn out, and then immediately give the stopper a few gentle taps with a light wooden instrument, as the handle of a small spatula or chisel, and try to turn the stopper in an upward direction from *right to left*. I have in most cases found this effectual, but if it is not so the first time, it must be repeated.—J. FORDRED.—*Ib.*

PIRATES OF ANTWERP.

From the port of Antwerp alone, and in the month of September alone, printed books were exported to the value of 97,822 francs, or not a thousand pounds short of four thousand, and it is supposed, that a much larger exportation takes place by land than by sea from Belgium, principally to Italy, Germany and Holland. Not one in a hundred of these works is of Belgian authorship or public property—they are almost all piratical reprints of Parisian copyrights, while the reading public of the continent is supplied with piratical reprints of all *but* Parisian copyrights by the Parisians themselves. The gunner is here indeed "hoist with his own petard."—*Ib.*

THE ARTESIAN WELL AT PARIS.

On the Place de Grenelle, near Paris, they have already bored to the depth of 1830 feet, in the hitherto vain attempt to form an Artesian Well. At this depth Reaumur's thermometer stands 23 degrees (48 of Fahrenheit.) According to M. Arago's calculation, water at a depth of 700 metres (2155 feet) ought to have a temperature of 36 degrees of Reaumur, or 110 Fahrenheit.—*Times.*

FIRE-PROOF FABRICS.

A French gentleman named Durais, has discovered a process by which linens, woollens, and even fine muslins, may be rendered fire proof. It appears that he exhibited the effects of his discovery to a number of scientific men, who witnessed gauses and muslins pass through a fierce fire without being in the slightest degree burnt or injured.—*Ib.*

FORD'S FIRE ESCAPE.

During the week, Mr. Ford had the honor of exhibiting his ingenious fire-escape at the Castle. One of his machines was erected in the quadrangle, in the presence of several of the chief officers of the household, the Queen viewing it from the corridor. Her Majesty, the Duchess of Kent, and some of the Royal suite, we understand had before witnessed it. The machine (if a very simple contrivance can be so called,) is unquestionably superior to anything we have before witnessed. It has all the attributes which we conceive ii posseble to blend together for the purpose of saving life and property, and such seems to be the opinion of every person in Windsor who has witnessed it. Already we understand, have Mr. Ford's machines been supplied to the Castle, where the experiments made with one this week have been highly eulogised, especially by Sir Jeffery Wyatville. They are used for cleaning the windows, for which, as well as for their service in cases of fire, they are admirably adapted.—*Windsor and Eaton Express, September* 30, 1837.

FRENCH SUBSTITUTE FOR INDIGO.

Public attention has been latterly attracted in France by the reported perfection to which the discovery of a substitute for indigo has been brought, and by the establishment of dye-works on a large scale for applying the process to the dying of wool and woollen cloths, for which it is more especially suited. This new product is called French blue *(blue de France,)* and its advantages are thus described:—1st. Its colour in all its shades, is of very superior beauty to any thing yet known. 2d. It is perfectly unchangeable by air, acids, soaps, &c. 3d. It never whitens at the seams, like indigo. 4th. It dyes in or penetrates the piece in the most perfect manner, which cannot be done with indigo. 5th. It preserves the quality of the cloth with all its softness and suppleness, without in any way altering the texture or nap. 6th. It facilitates the reproduction of the same shades, which is so difficult with indigo. 7th. Its results in the execution are so sure, that an exact estimate may be made beforehand of the expense and product. 8th. It offers a very considerable saving upon the value of the raw material (prussiate of potash,) which is an indigenous product of moderate price, susceptible of a reduction to a value still less, and by which, according to the quality of the cloth, it may be dyed at from 25 to 50 per cent. less expense than from indigo. 9th. It is said to be of great advantage for furniture, carriage and livery cloths, and for tartans, merinos, cachemires, &c. on account of the superior clearness and lustre of its colours. 10th. It produces an economy of 12 to 15 per cent. in the manufacture of the cloth, by the solid application of the colouring matter in piece, which has only been effected till now in black and scarlet. Such are the large results promised by this discovery, which appears to be looked upon by the parties originating it, as well as by several of the first woollen manufacturers of France, as likely to render France independent of foreign countries for the supply of indigo, of which she now consumes to the amount of 20,000,000 francs per annum.—*London Times.*

☞ Volume Six will be completed as speedily as possible. The next, or Volume for 1838, will be published in a more convenient form for preservation.

*** Subscribers who desire to be supplied with missing numbers, will do well to apply for them soon. We shall always take pleasure in furnishing them if we have them to spare.

☞ Particular attention will be given to the procuring of all kinds of Instruments required by Engineers.—Orders must be accompanied with the necessary funds or city acceptances.

AGENCY.

The Subscriber offers his services as Agent, to procure *Machinery for Mills, Steam Engines, Locomotives, Printing Machines, Presses, Types and Fixtures.*

He will give prompt attention to all orders entrusted to him for execution; and pledges himself to those who may employ him, that no effort on his part shall be wanting to procure the best articles to be had in the city—and to give satisfaction.

He will also employ Millwrights and Engineers to erect Mills, and put the Engines and Machinery in operation.

Orders accompanied with the necessary funds, or satisfactory city acceptances, should be addressed to D. K. MINOR, 30 Wall-st. N.Y.

LOUISVILLE, CINCINNATTI, AND CHARLESTON RAILROAD.

NOTICE TO CONTRACTORS.—Sealed Proposals will be received at the Office of the Company in Columbia, S. C., until the 15th day of February next, for the graduation and masonry of that portion of the Road from Columbia to the crossing of the Congaree River, in the vicinity of McCord's Ferry, being 25 miles in extent.

Also, for the construction of a Bridge of 400 feet in length, on the Congaree River, to be built on stone piers and abutments, for which there are suitable quarries in the neighborhood.

The plans and profiles of the line will be ready for inspection at the Office of the Resident Engineer, in Columbia, S. C., after the 10th day of February.

So soon as the surveys for location, now in progress, are completed, that part of the Road extending from McCord's Ferry to the Charleston and Hamburg Railroad, at Branchville, will be put under contract, of which due notice will be given.

WM. GIBBS Mc NEILL,
Chief Engineer.

☞ The Railroad Journal, N. Y. Courier & Enquirer, N. York; Providence Journal, Providence, R. I.; Atlas, Boston; Philadelpia Enquirer, Philadelphia; will publish the above notice 6 times, send a copy of the paper to the Office in Charleston, S. C., and a certified copy of their account for payment.

Jan. 12 fmw6

NEW ARRANGEMENT.

ROPES FOR INCLINED PLANES OF RAILROADS.

WE the subscribers have formed a co partnership under the style and firm of Folger & Coleman, for the manufacturing and selling of Ropes for inclined planes of railroads, and for other uses, offer to supply ropes for inclined planes, of any length required without splice, at short notice, the manufacturing of cordage, heretofore carried on by S. S. Durfee & Co., will be done by the new firm, the same superintendent and machinery are employed by the new firm that were employed by S. S. Durfee & Co. All orders will be properly attended to, and ropes will be shipped to any port in the United States.

12th month. 12th, 1836. Hudson, Columbia County, State of New-York.

ROBT. C. FOLGER.
3—tf GEORGE COLEMAN.

AMES' CELEBRATED SHOVELS, SPADES, &c.

300 dozens Ames' superior back-strap shovels.
150 do. do. do. plain do.
150 do. do. do. cast-steel Shovels & Spades
150 do. do. Gold-mining Shovels.
00 do. do. plated Spades,
50 do. do. socket Shovels and Spades

Together with Pick Axes, Churn Drills, and Crow Bars (steel pointed), manufactured from Salisbury refined iron—for sale by the manufacturing agents,

WITHERELL, AMES & CO.
No. 2 Liberty street, New-York.
BACKUS, AMES & CO.
No. 8 State-street, Albany.

N. B.—Also furnished to order, Shapes of every description, made from Salisbury refined Iron. v4-tf

MACHINE WORKS OF ROGERS, KETCHUM AND GROSVENOR, Paterson, New-Jersey.

The undersigned receive orders for the following articles, manufactured by them, of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and dispatch.

RAILROAD WORK.

Locomotive Steam-Engines and Tenders; Driving and other Locomotive Wheels, Axles Springs and Flange Tires; Car Wheels of cast iron, from a variety of patterns, and Chills; Car Wheels of cast iron, with wrought Tires; Axles of best American refined iron; Springs; Boxes and Bolts for Cars.

COTTON, WOOL, & FLAX MACHINERY,

Of all descriptions and of the most improved patterns, Style, and Workmanship.

Mill Geering and Millwright work generally; Hydraulic and other Presses; Press Screws; Calenders; Lathes and Tools of all kinds; Iron and Brass Castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR.
Paterson, N. J. or 60 Wall-st. New-York
51tf

FRAME BRIDGES.

THE undersigned, General Agent of Col. S. H. LONG, to build Bridges, or vend the right to others to build on his Patent Plan, would respectfully inform Railroad and Bridge Corporations, that he is prepared to make contracts to build, and furnish all materials for superstructures of the kind, in any part of the United States, (Maryland excepted.)

Bridges on the above plan are to be seen at the following localities, viz. On the main road leading from Baltimore to Washington; two miles from the former place. Across the Motawamkeag river on the Military road in Maine. On the national road in Illinois at sundry points. On the Baltimore and Susquehanna Railroad at three points. On the Hudson and Paterson Railroad in two places. On the Boston and Worcester Railroad, at several points. On the Boston and Providence Railroad, at sundry points. Across the Contoocook river at Hennikar, N. H. Across the Souhegan river, at Milford, N. H. Across the Connecticut river, at Hancock, N. H. Across the Androscoggin river, at Turner Centre, Maine. Across the Kennebec river, at Waterville, Maine. Across the Genesee river, at Squakiehill, Mount Morris, N. Y. Across the White River, at Hartford, Vt. Across the Connecticut River at Lebanon, N. H. Across the mouth of the Broken Straw Creek, Penn. Across the mouth of the Cataraugus Creek, N. Y. A Railroad Bridge diagonally across the Erie Canal, in the City of Rochester, N. Y. A Railroad Bridge at Upper Still Water, Orono, Maine. This Bridge is 500 feet in length; one of the spans is over 200 feet. It is probably the *firmest wooden bridge* ever built in America.

Notwithstanding his preseet engagements to build between twenty and thirty Railroad Bridges, and several common bridges, several of which are now in progress of construction, the subscriber will promptly attend to business of the kind to much greater extent and on liberal terms.

MOSES LONG.
Rochester, Jan. 19th, 1837. 4—y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads,

No. 264 Elizabeth street, near Bleecker street,
NEW-YORK.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on the New-York and Harlaem Railroad, now in operation.

ROACH & WARNER,

Manufacturers of OPTICAL, MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS, 293 Broadway, New-York, will keep constantly on hand a large and general assortment of Instruments in their line.

Wholesale Dealers and Country Merchants supplied with SURVEYING COMPASSES, BAROMETERS, THERMOMETERS, &c. &c. of their own manufacture, warranted accurate, and at lower prices than can be had at any other establishment.

☞ Istruments made to order and repaired.
1y—14

RAILWAY IRON, LOCOMOTIVES, &c. &c.

THE subscribers offer the following articles for sale:—

Railway Iron, flat bars; with countersunk holes and mitred joints,						lbs	
350 tons	2	by	1,	15 ft	in length, weighing	4 $\frac{80}{100}$	per
280	" 2	"	1,	"	"	" 3 $\frac{80}{100}$	"
70	" 1½	"	1,	"	"	" 2½	"
80	" 1½	"	¼,	"	"	" 1 $\frac{25}{100}$	"
90	" 1	"	½,	"	"	" $\frac{7}{8}$	"

with Spikes and Splicing Plates adapted thereto. To be sold free of duty to State governments, or incorporated companies.

Orders for Pennsylvania Boiler Iron executed.

Rail Road Car and Locomotive Engine Tires, wrought and turned or unturned, ready to be fitted on the wheels, viz. 30, 33, 36, 42, 44, 54, and 60 inches diameter.

E. V. Patent Chain Cable Bolts for Railway Car axles, in lengths of 12 feet 6 inches, to 13 feet 2½, 2⅔, 3, 3½, 3¾, 3½, and 5¾ inches diameter

Chains for Inclined Planes, short and stay links, manufactured from the E. V. Cable Bolts, and proved at the greatest strain.

India Rubber Rope for Inclined Planes, made from New Zealand Wax.

Also, Patent Hemp Cordage for Inclined Planes, and Canal Towing Lines.

Patent Felt for placing between the iron chair and stone block of Edge Railways.

Every description of Railway Iron, as well as Locomotive Engines, imported at the shortest notice, by the agency of one of our partners, who resides in England for this purpose.

A highly respectable American Engineer resides in England for the purpose of inspecting all Locomotives, Machinery, Railway Iron, &c. ordered through us.

A. & G. RALSTEN & CO.,
28 tf Philadelphia, No. 4 South Front-st.

ARCHIMEDES WORKS.

(100 North Moore-street, N.Y.)

THE undersigned beg leave to inform the proprietors of Rail Roads, that they are prepared to furnish all kinds of Machinery for Rail Roads, Locomotive Engines of any size, Car Wheels, such as are now in successful operation on the Camden and Amboy Rail Road, none of which have failed.—Castings of all kinds, Wheels, Axles and Boxes, furnished at the shortest notice.

H. R. DUNHAM & CO.
NEW YORK, February 12th, 1836. 4—ytf

PATENT RAILROAD, SHIP AND BOAT SPIKES.

⁂ The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation, and now almost universal use in the United States, (as well as England, where the subscriber obtained a patent) are found superior to any yet ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above-named factory—for which purpose they are found invaluable, as their adhesion is more than double any common Spikes made by the hammer.

⁂ All orders directed to the Agent, Troy, N.Y. will be punctually attended to.

HENRY BURDEN, Agent.
Troy, N.Y., July, 1831.

⁂ Spikes are kept for sale, at factory prices, by I & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water-street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

1J23am H. BURDEN.

G. Mitchell, Printer, 265 Bowery, N.Y.